

Not One, But Two Fires and Floods in Fort McMurray

2020 FLOOD & 2016 WILDFIRE

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2020 Spring Flood

- Occurred April 26th
- Cause: Athabasca River not breaking before the Clearwater River. The ice flow from the Clearwater River jammed causing water to back up into the downtown area of Fort McMurray, Waterways, Draper and Taiga Nova Industrial Park.
- Re-entry was on May 1st, 2020
- Structures Affected: 1,200
- Evacuated 13,000 people

Downtown Business District.
Includes:
Walmart,
Canadian Tire, Rona,
Shoppers Drug Mart,
Home Hardware,
Dynalife Lab, Insight Medical Imaging Lab, TD, RBC, Staples, Sobeys, 100+ small businesses



Draper

Waterways

Hospital

Hwy 63

Waste Collection

- May 1st – Re-entry began at 2:00 pm to some residents
- May 2nd, 3rd and 4th - residents used all 3 bins for waste. Collected twice a day.
- May 5th – 8th – continued collecting 3 bins once a day
- RECC – wanted a “wheel and spoke” system.
- I worked with the planning section and convinced them to use the rolling train. Was very successful.

Waste Collection

- Sorted waste at the curb in 3 streams:
 - Construction waste (no soils or trees)
 - Metals and mattresses
 - Haz waste and electronics
- Hired 3 contractors. One for each of the streams.
- Offered the green bags for small items and homes that did not have large volumes.











Landfill Operations

- AEP approval to accept wet waste.
- Extended our opening hours from: 8:15 am - 5:45 pm to 7:15 am - 6:45 pm
- Offered free tipping to everyone, even those whose properties were not affected by the flood. Commercial until June 30th and Residential until August 31st.
- Everyone was affected by the flood. The raw water intake for the water treatment plant was breached and the city was under a boil water advisory for roughly 5 months.

Volumes and Challenges

- Saw a volume of 91,000 Metric tonnes of waste landfilled
- 4,432 Mattresses & Boxsprings
- 2,925 Fridges/Freezers
- 509 metric tonnes of Scrap metal

Asbestos

Congestion with collections

Residents living across the river

Loss of revenue from areas not directly affected by the flood

Covid-19

2016 Horse River Fire

Fort McMurray



2016 Horse River Wildfire

Fort McMurray Wildfire (aka the Beast)

- Occurred May 3rd, 2016
- Cause: Horse River Wildfire
- Re-entry was staggered between June 1st – 4th, 2016
- Structures Affected: 2,400
- Evacuated 90,000 permanent residents + 20,000 temporary residents

May 4th - May 10th

Assessing and Repairing damage:

- Fire swept through the Fort McMurray Regional Landfill
- No permanent structures were damaged (except two Quonsets).
- Staff returned on the 6th of May and diligently worked to extinguish the fire in the cell.
- Landfill was inspected for integrity and compliance.
- Inspection results found; Leachate collection system sustained some damage, melted piping and burned pump. No damage to the liner. Bear fence will need some work. Landfill opened up for commercial use on the 10th of May.
- Calculated space available in the Active Landfill was 1.2 million cubic metres.
- Estimated waste to be received 800,000 metres cubed.

NOTE: Importance of Staff Training, Installing Fire Breaks in the Landfill and Applying Daily Cover.

Things could have been a lot worse!!!

Preparation for Residents Return

Logistically:

- Landfill opened on May 10th for commercial companies to empty bins.
- Compost Pad opened on May 16th for wood waste and biosolid compost.
- Staff pulled curbside bins from residential properties to the curb, (where the bins could be accessed). Before residents returned all curbside bins were emptied.
- 7 recycling depots had all bins emptied and beefed up with extra bins (to accept waste) and security to ensure no hazardous waste was being received.
- Procured Bagster from High river.
- Set up contracts with metal crushing company, concrete crushing company, hazardous waste management and extra equipment rentals.

Preparation for Residents Return

Structurally:

- Installed a 2nd inbound and outbound scale at the public drop off area for residential traffic only.
- Built an entry lane for residential only to access the PDO.
- Rented a 3rd scale and had it set up off sight to accept demolition debris only.
- Built a second exit lane onto the highway for demolition traffic.
- Built a second exit lane/scale bypass lane for Municipal vehicles registered with tare weights.



Preparation for Residents Return

Regulatory:

- Sampled ash for contaminants.
- Receive waiver from AEP to accept the ash and debris from the residential properties. Ash exceeded allowable levels of Zinc.
- Receive waiver from AEP to accept wet material (ash was required to be wetted down prior to disposal, so was the insulation to prevent wind blown particulates).
- Discussion on what to do with Asbestos.
- Approval to change operating hours.
- Engineered studies to determine the space available in the landfill.
- Update our operating plan.

Welcome Home

Re-entry for all communities (except for the 3 hardest hit communities) took place between June 1st and June 4th a month after evacuation.

- Collected all 3 curbside bins as garbage bins every 4 days for two weeks.
- Gave out Bagsters for residents who required extra waste pick-up.
- Work with Insurance Bureau of Canada to have fridges and freezers collected, degassed, emptied (in some cases) and recycled.
- Free tipping for residential waste at the landfill (until October 31st)
- Extended hours from 8 am to 8 pm for residential traffic and 24/7 for commercial/demolition traffic.
- Return curbside service to normal operations as soon as we could (within 2 weeks).

Challenges

Within Solid Waste Branch:

- Special Wastes (ammunition, explosives)
- Contaminated soil from around damaged properties
- Propane tanks
- Mattresses
- Asbestos
- Mulch from FireSmart program.
- Contractors (sprouting from everywhere).
- Red tape within and between levels of government.
- Post Traumatic Stress Syndrome (many of our staff lost their homes).
- Financial strain.

Statistics (effective September 24th):

- 15,000 fridges and freezers
- 35,000 MT of soils
- 90,000 MT of concrete
- 2,000 MT of scrap metal
- 20,500 MT of ash/debris
- Total of 147,500 MT of waste

(Because of asbestos and other contaminants, a lot of waste was disposed of at an independent landfill. City of Fort McMurray had 2 additional scrap metal companies that were accepting scrap metal.)

- 250 properties remain to be cleaned
- Total properties destroyed 2,400



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Lessons Learned

- Get involved with your communities emergency response. ICS (Incident Command System). Specifically the planning section. AEMA (in Alberta)
- Communication. Keep it simple and clear. Use common terms and pictures. Prepare in advance. Stick to radio and social media outlets.
- Emergency Response Plans. Prepare and plan for the worst. Scale back as needed.

QUESTION?

HAZ-Waste Blaster
or
COVID-19 ready

